

process

Although this invention has been described in its preferred form with a certain degree of particularity, it is appreciated by those skilled in the art that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of the construction, combination, and arrangement of parts may be resorted to without departing from the spirit and scope of the invention.

### CLAIMS

#### What is claimed is:

- 10 1. An acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine comprising an acoustic wave generating means and an acoustic wave sensing means.
- 15 2. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine according to claim 1, wherein said acoustic wave generating means is consisted of an acoustic wave oscillator, a first amplifier for amplifying the acoustic wave of the acoustic wave oscillator, and a speaker for  
20 diverging the acoustic wave of the first amplifier.
3. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine  
25 according to claim 1, wherein said acoustic wave sensing means is consisted of an acoustic wave sensing part for sensing an acoustic wave diverged through the speaker and converting the acoustic wave into an electric signal, a second amplifier for amplifying a signal of the acoustic wave sensing part and a display part for displaying a signal output from  
30 the second amplifier.
4. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine

according to any one of claims 1, 2 and 3, wherein a speaker is installed at a bending portion of a tubular passage, and said acoustic wave sensing part is installed a site under the contact surface between the valve and the valve seat.

5

5. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine according to any one of claims 1 and 3, wherein said acoustic wave sensing part comprises a condenser microphone for sensing the acoustic wave.

6. The acoustic wave sensor for detecting a contact state between an exhaust□intake valve and a valve seat of valve train for a vehicle engine according to claim 4, wherein a sound shielding member, where said speaker is installed, is separately mounted to a port part for preventing the acoustic wave from leaking.

- 7. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine according to claim 2, wherein a speaker is installed at a bending portion of a tubular passage, and said acoustic wave sensing part is installed a site under the contact surface between the valve and the valve seat.
8. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine according to claim 3, wherein a speaker is installed at a bending portion of a tubular passage, and said acoustic wave sensing part is installed a site under the contact surface between the valve and the valve seat.
9. The acoustic wave sensor for detecting a contact state between a exhaust□intake valve and a valve seat of valve train for a vehicle engine according to claim 3, wherein said acoustic wave sensing part comprises a condenser microphone for sensing the acoustic wave.--